

10/501,471

(FILE 'HOME' ENTERED AT 18:09:10 ON 15 AUG 2005)

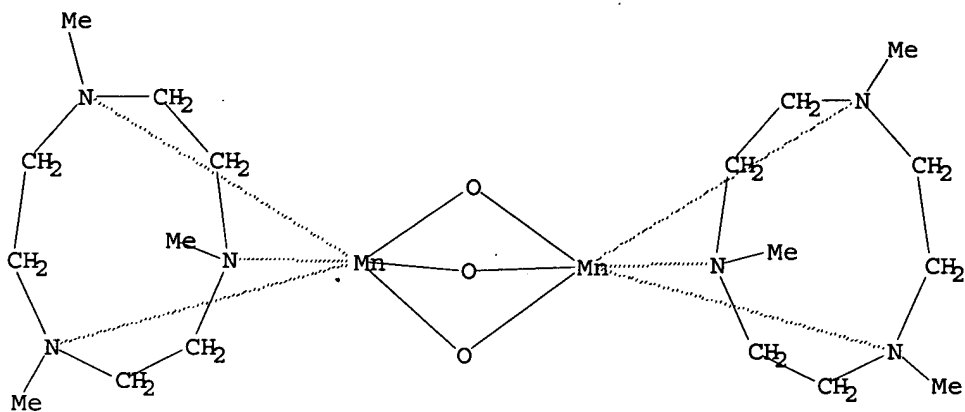
FILE 'REGISTRY' ENTERED AT 18:09:21 ON 15 AUG 2005

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 18:10:41 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 15 TO ITERATE

100.0% PROCESSED 15 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 68 TO 532

PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 18:10:47 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 317 TO ITERATE

100.0% PROCESSED 317 ITERATIONS

14 ANSWERS

SEARCH TIME: 00.00.01

L3 14 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

162.19

162.40

FILE 'CAPLUS' ENTERED AT 18:10:52 ON 15 AUG 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the

American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 15 Aug 2005 VOL 143 ISS 8
FILE LAST UPDATED: 14 Aug 2005 (20050814/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3

L4 116 L3

=> s l4 and heteropolyacid

1275 HETEROPOLYACID

L5 1 L4 AND HETEROPOLYACID

=> d bib abs

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:183889 CAPLUS

DN 130:268870

TI Bleach detergents for machine laundry with freedom from scale and slime formation and toxic gas release

IN Nishino, Takashi; Kishi, Minoru; Kususe, Masahiro; Hasegawa, Takamichi

PA Lion Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11071597	A2	19990316	JP 1997-241820	19970822
PRAI	JP 1997-187607	A	19970627		

AB The detergents with good mold removal power contain (A) peroxy compds., and (B) metal complexes having ligands of large-sized rings or/and heteropolyacids. A detergent contained H₂O₂ 10, N,N,N',N'-tetraacetyleneethylenediamine 1, α -Cu phthalocyanine 0.01, a linear alkylbenzenesulfonic acid Na-salt 3, and K carbonate 5 and enough water to 100 parts.

=> s l4 and heteropolymolybdate#

304 HETEROPOLYMOLYBDATE#

L6 0 L4 AND HETEROPOLYMOLYBDATE#

=> s l4 and heteropolytungstate#

576 HETEROPOLYTUNGSTATE#

L7 0 L4 AND HETEROPOLYTUNGSTATE#

=> s l3/prep

116 L3

3342737 PREP/RL

L8 13 L3/PREP

(L3 (L) PREP/RL)

=> d 1-13 bib abs

L8 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:570877 CAPLUS

DN 139:119029

TI Manganese(IV) complex salts and their use as oxidation catalysts

IN Bosch, Marco; Veghini, Dario

PA Lonza A.-G., Switz.

SO PCT Int. Appl., 14 pp.

CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003059510	A2	20030724	WO 2003-EP218	20030113
	WO 2003059510	A3	20031224		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1467812	A2	20041020	EP 2003-702423	20030113
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	JP 2005514446	T2	20050519	JP 2003-559665	20030113
	US 2005065378	A1	20050324	US 2004-501471	20040714
PRAI	EP 2002-866	A	20020115		
	WO 2003-EP218	W	20030113		

OS MARPAT 139:119029

AB Disclosed are manganese(IV) complex salts of formula [(LMn(μ -O)3MnL)]_n[XM₁₂O₄₀]_m, wherein L = 1,4,7-trimethyl-1,4,7-triazacyclononane, X is P or Si, M = Mo or W, n = 2 or 3, and m = 1 or 2, with the provisos that (i) if X = Si, then n = 2 and m = 1 and (ii) if X = P, then n = 3 and m = 2. These compds. are active catalysts in the partial oxidation of various organic compds. with peroxy compds., e. g. the preparation of ketones from secondary alcs. or the epoxidn. of olefins.

L8 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:670104 CAPLUS
DN 131:288054

TI Phosphate built automatic dishwashing compositions comprising cobalt bleach catalysts for cleaning tableware

IN Haeggberg, Donna Jean; Scheper, William Michael

PA Procter & Gamble Co., USA

SO U.S., 19 pp., Cont.-in-part of U. S. 5,599,781.

CODEN: USXXAM

DT Patent
LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5968881	A	19991019	US 1995-575317	19951220
	US 5599781	A	19970204	US 1995-508196	19950727
	CA 2240818	AA	19970626	CA 1996-2240818	19961213
	WO 9722681	A1	19970626	WO 1996-US20064	19961213
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9714232	A1	19970714	AU 1997-14232	19961213
	EP 874895	A1	19981104	EP 1996-944420	19961213
	EP 874895	B1	20020911		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI			
	JP 11501358	T2	19990202	JP 1996-522958	19961213
	BR 9612070	A	19990217	BR 1996-12070	19961213
	CN 1209163	A	19990224	CN 1996-199987	19961213
	AT 223959	E	20020915	AT 1996-944420	19961213
	ES 2179223	T3	20030116	ES 1996-944420	19961213

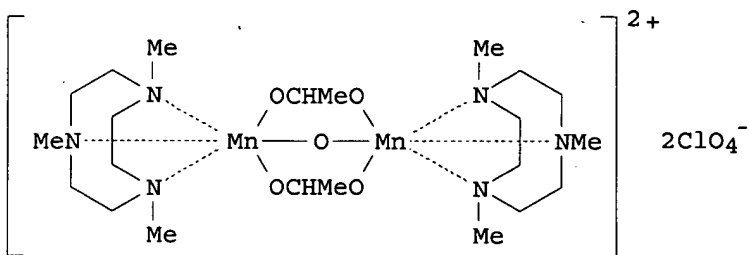
	US 5962386	A	19991005	US 1997-964654	19971105
	US 5939373	A	19990817	US 1998-28633	19980224
PRAI	US 1995-382546	B2	19950202		
	US 1995-491462	B2	19950616		
	US 1995-508196	A2	19950727		
	US 1995-508193	B1	19950727		
	US 1995-575317	A	19951220		
	WO 1996-US20064	W	19961213		
	US 1997-795898	A1	19970206		

AB Automatic dishwashing detergent compns. comprise phosphate builder and 0.1-10 ppm metal-containing bleach catalyst, preferably catalysts containing Mn and/or selected from selected Co/NH₃ catalysts. Co bleach catalysts are preferably [Co(NH₃)₅OAc]Ty (T is ≥1 counter anions, y = 1 or 2). Automatic dishwashing detergent compns. further comprise 0.1-70% peroxide source, adjunct materials, amylase and/or protease. Pentaammineacetatocobalt(III) Nitrate was prepared and used in a dishwashing detergent.

RE.CNT 97 THERE ARE 97 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:701109 CAPLUS
DN 125:328285
TI Preparation of aryl alkyl hydroperoxides by using dinuclear
μ-oxomanganese complexes
IN Matsui, Narikazu; Takai, Toshihiro; Fujita, Terunori
PA Mitsui Petrochemical Industries, Co., Ltd., Japan; Mitsui Chemicals Inc.
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08231498	A2	19960910	JP 1995-40577	19950228
	JP 3526341	B2	20040510		
PRAI	JP 1995-40577		19950228		
OS	MARPAT 125:328285				
GI					



AB Aryl alkyl hydroperoxides are prepared by oxidation of Ar[CHRQ]_n (Ar = aromatic hydrocarbyl with valency of n; R, Q = H, alkyl; n = 1-3) with O-containing gas by using catalysts comprising dinuclear μ-oxomanganese complexes having 2 mols of cyclic triamines each coordinated to Mn with Mn:(coordinated N) = 1:3. A mixture of cumene and cumene monohydroperoxide (I) was treated with dinuclear μ-oxomanganese complex II and air at 80° for 7 h to give I with 80% selectivity.

L8 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:138344 CAPLUS
DN 124:244812
TI Proton-Coupled Electron-Transfer Reactions in [MnIV₂(μ-O)₃L'₂]²⁺ (L' = 1,4,7-Trimethyl-1,4,7-triazacyclononane). [Erratum to document cited in CA123:352974]
AU Hage, Ronald; Krijnen, Bert; Warnaar, Johann B.; Hartl, Frantisek; Stufkens, Derk J.; Snoeck, Theo L.

CS USA
 SO Inorganic Chemistry (1996), 35(5), 1416
 CODEN: INOCAJ; ISSN: 0020-1669
 PB American Chemical Society
 DT Journal
 LA English
 AB The errors were not reflected in the abstract or the index entries.

L8 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:130825 CAPLUS
 DN 124:149301
 TI Manufacture of bleach decomposition catalyst and nonfriable granular composition
 IN Asperen, Anna Leonarda M.; Iburg, Jan Eric; Sengupta, Asup Kumar; Ciccari, Craig; Lempers, Edwin Leo M.; Hage, Ronald
 PA Unilever N.V., Neth.; Unilever PLC
 SO PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9530733	A1	19951116	WO 1995-EP1683	19950503
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9525244	A1	19951129	AU 1995-25244	19950503
EP 1994-201296	A	19940509		
WO 1995-EP1683	W	19950503		

OS MARPAT 124:149301

AB The title composition comprises an adsorption product of: (i) a porous material with active ionic sites (silica, zeolite, etc.) and (ii) specified mononuclear and dinuclear Mn ion complexes (in which Mn is in the III or IV oxidation state) with specific coordinated ligands or bridging species. Also a process is provided for preparing such adsorption products, nonfriable granules comprising such an adsorption product, a soluble binding/coating agent, and optionally in inert solid. Furthermore detergent comps. are provided comprising an adsorbed bleaching catalyst composition as described above. A title catalyst prepared by reacting MnCl₂ with 1,4,7-trimethyl-1,4,7-triazacyclononane, treating the mixture with H₂O₂ and adsorbing the resulting complex on Gasil TP200 was tested in perborate bleaching expts.

L8 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:97723 CAPLUS
 DN 124:248670
 TI Improved syntheses, structures, spectral and electrochemical properties of [MnIII₂(μ-O)(μ-O₂CMe)₂L₂]₂⁺ and [MnIV₂(μ-O)₃L₂]₂⁺ complexes. Two homologous series derived from eight N-substituted 1,4,7-triazacyclononanes
 AU Koek, Jean H.; Russell, Stephen W.; van der Wolf, Lodewijk; Hage, Ronald; Warnaar, Johann B.; Spek, Anthony L.; Kerschner, Judy; DelPizzo, Lisa
 CS Unilever Res. Laboratorium Vlaardingen, Vlaardingen, 3130 AC, Neth.
 SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1996), (3), 353-62
 CODEN: JCDTBI; ISSN: 0300-9246
 PB Royal Society of Chemistry
 DT Journal
 LA English
 AB Eight N-substituted 1,4,7-triazacyclononanes L were prepared having combinations of H, Me, Et or Pr substituents on the three nitrogens. From the monoprotonated macrocycles dinuclear Mn complexes [MnIII₂(μ-O)(μ-O₂CMe)₂L₂]₂X₂ (X = ClO₄ or PF₆) were prepared under anhydrous conditions in high yield. A relation between the absorption bands and the electrochem.

properties of the complexes containing variously Me-substituted L was observed From the MexEt3-x- and Pr3-substituted macrocycles triple O-bridged dinuclear Mn complexes [MnIV2(μ-O)3L2]2+ were prepared starting from L, a Mn(II) salt and counterion, subsequently treated with alkaline H2O2. The yields of this reaction depend on the sizes of substituents at N on the macrocycle. The crystal structure of [MnIV2(μ-O)3L2][PF6]2·0.5KPF6 (L = 1,4,7-trimethyl-1,4,7-triazacyclononane) was determined This revealed the core to be almost identical to that of known tri-Et analog, with the Me groups of the Et substituents pointing outwards to minimize steric interaction. The Mn-Mn distance of 2.295 Å is likewise exceptionally short and the value for the Mn-O-Mn bond angle of 77.9° is also very low. The NMR and UV/visible absorption spectra and electrochem. measurements indicate very similar structures for these triple O-bridged dinuclear Mn complexes.

L8 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:837459 CAPLUS

DN 123:232056

TI Bleaching catalyst compositions for detergents

IN Chapple, Andrew Paul; Nation, Jayne Elisabeth; Emery, William Derek; Plomp, Hermien Willemyrn; Van Vliet, Marten Robert Pieter; Donker, Cornelis Bernard; Monir, Clemens Osman

PA Unilever, PLC, UK; Unilever N.V.

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9506711	A1	19950309	WO 1994-GB1905	19940902
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
	RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5536441	A	19960716	US 1994-299768	19940901
	AU 9475067	A1	19950322	AU 1994-75067	19940902
PRAI	GB 1993-18295	A	19930903		
	WO 1994-GB1905	W	19940902		

OS MARPAT 123:232056

AB A storage-stable, granular, nonfriable bleaching catalyst composition with good dispersibility in detergents contains: (i) a mono- or dinuclear manganese complex catalyst; (ii) a water-soluble binding agent selected from soap/fatty acid mixts., polyethylene glycols of mol. weight in the range from 500 to 3000, tallow and coco ethanolamides, nonionic surfactants and mixts. thereof; and (iii) an inert solid selected from zeolites, silicas, clays, alumina, titanium dioxide and mixts. thereof; with each granule having a pH 4.5-8.5. A typical composition contained [Mn4+(μ-O)3(Me3TACN)2](PF6)2H2O (Me3TACN = 1,4,7-trimethyl-1,4,7-triazacyclononane) 0.155, zeolite MAP 4, citric acid (particle size 50 μm) 2, and C12/C18 fatty acid/soap mixture 1.5 kg.

L8 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:837458 CAPLUS

DN 123:260458

TI Bleaching catalyst compositions for detergents

IN Chapple, Andrew Paul; Nation, Jayne Elisabeth; Emery, William Derek; Plomp, Hermien Willemyrn; Ciccari, Craig Steven; Ciccari, Karla Jean; Van Vliet, Marten Robert Pieter; Donker, Cornelis Bernard; Monir, Clemens Osman

PA Unilever PLC, UK; Unilever N.V.

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
--	------------	------	------	-----------------	------

```

-----
PI  WO 9506710          A1    19950309      WO 1994-GB1904          19940902
    W:  AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,
        GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG,
        MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA,
        UZ, VN
    RW:  KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC,
        NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
AU  9475066          A1    19950322      AU 1994-75066          19940902
PRAI GB 1993-18296      A      19930903
    GB 1993-23373      A      19931112
    WO 1994-GB1904      W      19940902

```

OS MARPAT 123:260458

AB A storage-stable bleach catalyst composition in the form of non-friable composite granules with good dispersibility in detergents contains: (i) a mono- or dinuclear manganese complex catalyst, (ii) a hydrophobic binding agent selected from silicone oils, C11-C18 fatty acids, C11-C18 fatty acid soaps, C11-C18 fatty esters, tri-, di- and monoglycerides, waxes, solid hydrocarbons and mixts. thereof, and (iii) a non-deliquescent or non-hygroscopic soluble core material such as NaHCO₃. A typical catalyst contained [Mn₂₄+(μ-O)₃(Me₃TACN)₂](PF₆)₂H₂O (Me₃TACN = 1,4,7-trimethyl-1,4,7-triazacyclononane) 0.160, silica 3, NaHCO₃ (average particle size 50μm) 3, and cetylstearyl stearate 2 kg.

L8 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:790871 CAPLUS

DN 123:352974

TI Proton-Coupled Electron-Transfer Reactions in [MnIV₂(μ-O)₃L'₂]₂⁺ (L' = 1,4,7-Trimethyl- 1,4,7-triazacyclononane)

AU Hage, Ronald; Krijnen, Bert; Warnaar, Johann B.; Hartl, Frantisek; Stufkens, Derk J.; Snoeck, Theo L.

CS Unilever Research Laboratorium, Vlaardingen, 3133 AT, Neth.

SO Inorganic Chemistry (1995), 34(20), 4973-8

CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

LA English

AB The pK_a value of [MnIV₂(μ-O)₃L'₂]₂⁺ (L' = 1,4,7-trimethyl-1,4,7-triazacyclononane) was determined spectrophotometrically by carrying out titration expts. with concentrated sulfuric acid. The extremely low pK_a value of -2.0 suggests that the electron d. on the bridging oxygen atoms is very small. The asym. Mn-O-Mn vibration is observed at 670 cm⁻¹, while the sym. Mn-O-Mn vibration is present at 702 cm⁻¹. The unusually high frequencies of these vibrations are due to the small Mn-O-Mn angle of 78°. Protonation of an oxygen bridge shifts both the asym. and sym. vibrations to 683 cm⁻¹. Electrochem. expts. in acetonitrile showed that 1-electron reduction of the complex is chemical irreversible. IR, EPR, and UV-visible studies of the reduced species suggest a MnIIIMnIV(μ-O)₂(μ-OH) core. PH-dependent differential pulse voltammetry expts. in aqueous solns. revealed an apparent pK_a value of .apprx.4.0 for the reduced mixed-valence species in various buffer systems. The reduction wave at pH > 4 is observed at .apprx.-0.10 V vs. SCE. Cyclic voltammetry revealed that the reduced species is prone to reaction with carboxylate groups. A bis(carboxylate)mono-oxo-bridged Mn(III)-Mn(III) species is formed in citric acid buffer which exhibits an anodic peak around +0.6 V vs. SCE, and a UV-visible spectrum that is typical of such a species.

L8 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:301664 CAPLUS

DN 120:301664

TI Synthesis of manganese oxidation catalyst useful with peroxide bleaches

IN Kerschner, Judith L.; Delpizzo, Lisa

PA Lever Brothers Co., USA

SO U.S., 5 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

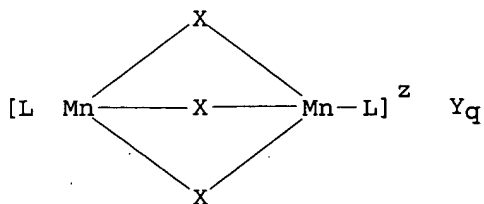
PI US 5256779 A 19931026 US 1992-900861 19920618
 WO 9325562 A1 19931223 WO 1993-EP1383 19930602
 W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP,
 KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE,
 SK, UA, VN
 RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
 BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
 AU 9343211 A1 19940104 AU 1993-43211 19930602
 EP 646120 A1 19950405 EP 1993-912855 19930602
 EP 646120 B1 19970326
 R: CH, DE, ES, FR, GB, IT, LI, NL, SE
 ES 2099954 T3 19970601 ES 1993-912855 19930602
 JP 11500052 T2 19990106 JP 1993-501076 19930602
 BR 9306563 A 19990112 BR 1993-6563 19930602
 PRAI US 1992-900861 A 19920618
 WO 1993-EP1383 A 19930602

OS MARPAT 120:301664

AB A compound such as $[LMn_4+(\mu-O)_3Mn_4+L]_2+(PF_6^-)_2$ (L = 1,4,7-trimethyl-1,4,7-triazacyclononane), useful as a peroxygen bleach catalyst, is prepared by reacting a Mn^{2+} salt (e.g., $MnCl_2$) with a ligand L in an aqueous medium containing a counterion salt (e.g., $NaPF_6$) and oxidizing the product with an oxidizing agent such as Na_2O_2 or H_2O_2 while maintaining a pH of ≥ 12 . The compound is prepared with high yield and purity in 1 reactor with a short reaction time and without isolation of intermediate products.

L8 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1993:246318 CAPLUS
 DN 118:246318
 TI Process for preparing manganese complexes
 IN Kerschner, Judith; Van der Wolf, Lodewijk; Koek, Jean Hypolites; Potman, Ronald Peter
 PA Unilever PLC, UK; Unilever N. V.
 SO Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 522817	A1	19930113	EP 1992-306196	19920706
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	US 5274147	A	19931228	US 1992-909358	19920706
	CA 2073393	AA	19930112	CA 1992-2073393	19920708
	BR 9202536	A	19930316	BR 1992-2536	19920709
	JP 05186487	A2	19930727	JP 1992-184181	19920710
	ZA 9205176	A	19940110	ZA 1992-5176	19920710
PRAI	GB 1991-15012	A	19910711		
	GB 1991-24474	A	19911118		
OS	MARPAT 118:246318				
GI					



AB A process is described for preparing a dinuclear manganese complex of formula I, Mn represents Mn in the III or IV oxidation state, each X is independently a coordinating or bridging species selected from H_2O , O_2^- , O_2^{2-} , OH^- , SH^- , S_2^{2-} , $S=O$, Cl^- , N_3^- , SCN^- , N_3^- , $RCOO^-$, NH_2^- and NR_3 , where R is H, alkyl or

aryl (optionally substituted); L is a ligand which is an organic mol. containing ≥ 3 N atoms which coordinate to a Mn center; Z represents the charge of the complex and is an integer which may be pos. or neg.; Y is a monovalent or multivalent counterion leading to charge neutrality, which is dependent upon the charge z of the complex; and q = z/[charge Y]. The process comprises the steps of: (i) reacting an Mn(II) salt with at least an equivalent amount of a compound comprising the ligand L to form the Mn complex with the reaction being carried out in a nonaq. solvent; and (ii) optionally, oxidizing the Mn complex formed in step (i) with an oxidizing agent. Application for bleach catalysts is indicated.

L8 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:640645 CAPLUS

DN 117:240645

TI Synthesis of manganese oxidation catalyst

IN Kerschner, Judith L.; DelPizzo, Lisa

PA Lever Brothers Co., USA

SO U.S., 5 pp.

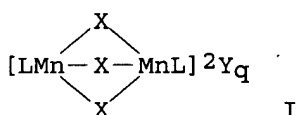
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5153161	A	19921006	US 1991-798477	19911126
	CA 2083660	AA	19930527	CA 1992-2083660	19921124
	EP 544491	A2	19930602	EP 1992-310720	19921124
	EP 544491	A3	19930929		
	R: CH, DE, ES, FR, GB, IT, LI, NL, SE				
	BR 9204537	A	19930601	BR 1992-4537	19921125
	ZA 9209141	A	19940525	ZA 1992-9141	19921125
	JP 07008801	A2	19950113	JP 1992-316991	19921126
PRAI	US 1991-798477	A	19911126		
OS	MARPAT 117:240645				
GI					



AB A process is described for the preparation of a Mn complex bleach catalyst having the formula I, where Mn is in a III or IV oxidation state; X is independently selected from a coordinating or bridging species selected from the group consisting of: H₂O, O₂²⁻, O₂⁻, OH⁻, HO₂⁻, SH⁻, S₂⁻, >SO, Cl⁻, N₃⁻, SCN⁻, N₃⁻, RCOO⁻, NH₂⁻ and NR₃; R is a radical selected from the group consisting of H, alkyl, and aryl radicals; L is an organic ligand containing ≥ 2 N atoms that coordinate with the Mn; z is an integer ranging from -4 to +4; Y is a monovalent or multivalent counterion leading to charge neutrality; and q is an integer from 1 to 4. The process comprises the steps of: (i) reacting in an aqueous medium a Mn(II) salt with the ligand L to form a Mn coordinated substance, a counterion salt MzYq being present, where M is selected from metals, ammonium, and alkanolammonium ions; (ii) oxidizing the manganese coordinated substance of step (i) with an oxidizing agent; (iii) basifying a reaction mixture containing the oxidized Mn coordinated substance formed in step (ii) to a pH of >10.5; and (iv) contacting the basified reaction mixture with a further oxidizing agent to form the Mn complex catalyst.

L8 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:582436 CAPLUS

DN 109:182436

TI Synthesis, crystal structures, reactivity, and magnetochemistry of a series of binuclear complexes of manganese(II), -(III), and -(IV) of biological relevance. The crystal structure of [L'MnIV(μ-O)3MnIVL'](PF₆)₂·H₂O containing an unprecedented short

Mn...Mn distance of 2.296 Å

AU Wieghardt, Karl; Bossek, Ursula; Nuber, Bernhard; Weiss, Johannes;
 CS Bonvoisin, J.; Corbella, M.; Vitols, S. E.; Girerd, J. J.
 SO Ruhr-Univ., Bochum, D-4630, Fed. Rep. Ger.
 Journal of the American Chemical Society (1988), 110(22), 7398-411
 CODEN: JACSAT; ISSN: 0002-7863

DT Journal
 LA English

AB The disproportionation reactions of $\text{Mn}_2\text{O}(\text{OAc})_2\text{Q}_2$ [I; Q = 1,4,7-triazacyclononane (L); N,N',N''-trimethyl-1,4,7-triazacyclononane (L1)], in which Q are capping ligands, in aqueous solution under anaerobic conditions lead to a variety of novel binuclear MnIIIMnIV and MnIV2 dimers. $[\text{L}_2\text{MnIIIMnIV}(\mu\text{-O})_2(\mu\text{-OAc})][\text{BPh}_4]_2 \cdot \text{CH}_3\text{CN}$, $[\text{L}_2\text{MnIIIMnIV}(\mu\text{-O})(\mu\text{-OAc})_2](\text{ClO}_4)_3$, $[\text{L}_2\text{MnIV}_2(\text{OH})(\mu\text{-O})_2][\text{MnII}_3(\text{C}_2\text{O}_4)_4(\text{OH}_2)_2] \cdot 6\text{H}_2\text{O}$ (II), and $[\text{L}_2\text{MnIV}_2(\mu\text{-O})_3](\text{PF}_6)_2 \cdot 2\text{H}_2\text{O}$ (III) were formed. $[\text{L}_4\text{MnIV}_4\text{O}_6]\text{Br}_4 \cdot 5.5\text{H}_2\text{O}$ (IV) is generated as a thermodynamically very stable product from a MnII containing aqueous solution of L in the presence of O. In the absence of O MeOH solns. of $\text{Mn}(\text{ClO}_4)_2 \cdot 2\text{H}_2\text{O}$ or $\text{Mn}(\text{OAc})_2$ react with L1 to form $[\text{L}_2\text{MnII}_2(\mu\text{-OH})(\mu\text{-OAc})_2](\text{ClO}_4)_4$ and $[\text{L}_2\text{MnII}_2(\mu\text{-OAc})_3][\text{BPh}_4]$ (V). The oxo- and acetato-bridges in I are labile; addition of anions X- (X = Cl, Br, NCS, N3) to MeCN solns. of I yields the monomers LMnX_3 and L_1MnX_3 . The electrochem. of all compds. was studied; e.g., I (Q = L1) is reversibly oxidized by 2 1-electron processes to generate MnIIIMnIV and MnIV2 dimers in liquid SO2. The crystal structures of II, III, IV and V were determined by x-ray crystallog. V is orthorhombic Pcab; II is monoclinic C2/c, IV is monoclinic P21/c, and III is orthorhombic Pnma. VII consists of the cofacial bioctahedral cation $[\text{L}_1\text{MnIV}(\mu\text{-O})_3\text{MnIVL}_1]_2^+$ and PF_6^- anions. The Mn...Mn distance is unusually short (2.296(2) Å). Bulk magnetic properties of all compds. were studied at 100-298 K, and in some instances 4-298 K. In I (Q = L1) the Mn(III) ions are ferromagnetically coupled, $J = +18$ (1) cm⁻¹; whereas the MnII centers in V are weakly antiferromagnetically coupled, $J = -3.5$ (2) cm⁻¹. Very strong intramol. antiferromagnetic coupling is observed in III ($J = -780$ cm⁻¹).